3.3 The permittee shall use a gelcoat with a styrene monomer content of no more than forty-three percent (43%) by weight.

3.4 The permittee shall use a soap-based cleaner, ND-165 and acetone as the cleaning solvent. The amount of acetone is restricted to two gallons per day.

3.5 Airless spray guns shall be used for all spray-up processes including gelcoat application.

3.6 Neither Stack No. 1 nor Stack No. 2 shall be equipped with a rain cap or any other obstruction that would result in the downward deflection of the exhaust gas stream.

3.7 The permittee shall at all times keep all exterior doors and/or windows of the building used for fiberglassing operations tightly closed except for the explicit purpose of moving necessary equipment, materials or personnel into or out of the building.

3.8 The permittee shall use closed containers for the disposal of all gelcoat, resin, catalyst and cleaning materials in such a manner as to effective control styrene and VOC emissions to the surrounding air.

3.9 The permittee shall at no time allow containers of gelcoat, resin, catalyst or cleaning materials to be open to the atmosphere other than to transfer material to or from the container or to insert a pump. This shall apply to full, partially full and empty containers.

3.10 Resins and gelcoat shall be stored out of direct sunlight.

3.11 Resins, gelcoat, fiberglass and catalyst are restricted to a maximum usage as follows in any calendar year, as per applicant's submittal:

Resins	720,000 pounds per year
Gelcoat	103,000 pounds per year
Fiberglass	400,000 pounds per year
Catalyst	17,500 pounds per year

4.1 The permittee shall submit, in writing, the proposed test methods for the initial performance test to measure styrene emissions from each of the stacks. The permittee shall receive Department approval of proposed test methods prior to scheduling of such testing. ***Inapplicable as this source test has been conducted and the proposed test method was submitted and approved prior to testing.***

4.2 The permittee shall conduct an initial performance test to measure styrene emissions from each of the stacks (Stack No. 1 and 2). ***Inapplicable as this source test was conducted August 26, 1993.***

4.3 Performance tests shall be conducted for particulate emissions if the visible emissions exceed twenty percent (20%) opacity for more than three (3) minutes in any sixty (60) minute period from either of the Stack No. 1 or 2.

5.1 The permittee shall submit a performance test report required in Sections 4.2 and 4.3 of this permit. All information shall be submitted to the Department within thirty (30) days of the date on which the performance tests were conducted. **This requirement is inapplicable for styrene as this test report was submitted to the Department in September, 1993.** This condition would be applicable for any particulate test conducted as required under condition 4.3.

5.2 The permittee shall maintain weekly records on site for the most recent two (2) year period. Access to these records shall be granted to the Department representatives upon request. The records shall contain the following:

5.2.1 The manufacturers' names and the amounts used of gelcoat, resins, catalyst and cleaning solvent.

5.2.2 The weight percent of styrene monomer in the gel coat and resins used.

5.2.3 The number of hours the facility operated.

SECTION 10 – COMPLIANCE PLAN

Dynamic Fabricators LLC does not comply with three applicable regulations or rules as summarized in Section 9. The three conditions are related to two issues:

1) Submit a Tier 1 application for renewal at least 6 months prior to expiration; and

2) Limit maximum throughput of facility.

Tier 1 Renewal Application: Dynamic Fabricators raised the issue of this dealine in March of 2004 during an enforcement meeting, and requested that an extension to the deadline be made in order that Dynamic Fabricators be able to incorporate the provisions of the new PTC in the Tier 1 renewal application. At the time of this meeting, a draft AOP had been completed but did not incorporate the new throughput limits. It was our understanding that DEQ understood the duplicative efforts which would be made to submit the application under the old PTC, then modify it later after the amended PTC was issued. Unfortunately when a draft consent order was provided to us on July 22, 2004, it did not address the Tier 1 renewal deadline. We submitted comments on the consent order on August 5, 2004 which requested that DEQ readdress this issue, but the final order was issued on September 7th without extending the renewal deadline. This document represents the renewal permit application and is submitted on DEQ provided forms using site specific information.

This issue will be resolved when DEQ declares the Tier 1 renewal application complete. Dynamic Fabricators will respond in a timely manner to any requests for information.

Throughput Limit: Dynamic Fabricators submitted a PTC application on November 19, 2003 to amend the throughput allowance while maintaining the existing emissions limitations. This application was declared complete on September 22, 2004 and will be reviewed and issued in accordance with IDAPA 58.01.01.200 – 228.

Once this PTC is issued, Dynamic Fabricators will be in compliance with all applicable regulations. Dynamic Fabricators will respond to any requests for information in a timely manner.

APPENDIX A

MATERIAL SAFETY DATA SHEETS

DYNAMIC FABRICATORS, LLC
OCTOBER 2004

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: POLYCOR
DESCRIPTION: UV GRAY
PRODUCT CODE IDENTITY: 944AC050
NPCA HMIS RATING: H 2* F 3 R 2

REVISION: 05
LAST REVISED : 11/26/2001
DATE OF ISSUE: 02/13/2003

COMPANY NAME: COOK COMPOSITES AND POLYMERS CO.
ADDRESS: 820 E. 14th AVENUE
NORTH KANSAS CITY, MO 64116

PREPARED BY:
HAZARD COMMUNICATION DEPT.
INFORMATION TELEPHONE:
COMPOSITES: 1-800-821-3590
POLYMERS: 1-800-488-5541

CUSTOMER:

ATTENTION:

TRANSPORTATION EMERGENCY TELEPHONE (CHEMTREC): 1-800-424-9300

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

* *
*** The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications. ***
* *

SECTION II INGREDIENTS

1
CAS# 001333-86-4
CARBON BLACK
PCT BY WT: .0340
EXPOSURE LIMIT:

ACGIH TLV/TWA:	3.5 MG/CU.M.
OSHA PEL/TWA:	3.5 MG/CU.M.
LD50, Oral:	NOT AVAILABLE
LD50, Dermal:	NOT AVAILABLE
LC50, Inhalation:	NOT AVAILABLE

2
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 4.7460 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:

ACGIH TLV/TWA:	100 PPM (410 MG/CU.M.)
OSHA PEL/TWA:	100 PPM (410 MG/CU.M.)
LD50, Oral:	7.9 G/KG (RAT)
LD50, Dermal:	35.5 G/KG (RABBIT)
LC50, Inhalation:	>12,500 PPM/0.5H (RAT)

3
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 32.9370 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:

ACGIH TLV/TWA:	20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL:	40 PPM (170 MG/CU.M.)
OSHA PEL/TWA:	100 PPM (8 HR TWA)
OSHA PEL/CEILING:	ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL:	ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)

****
****
This substance is classified as a hazardous air pollutant.
****

****
* POLYCOR *
* MATERIAL SAFETY DATA SHEET *
* 944AC050 *
****

NMFC: 46030 RESIN COMPOUNDS, LIQUID LTL CLASS 55

SECTION V HEALTH HAZARD DATA

EFFECTS OF EXCESSIVE OVEREXPOSURE. PRIMARY ROUTES OF ENTRY ARE:

EYE CONTACT:
Irritation. Symptoms are tearing, redness and discomfort.

SKIN CONTACT:
Irritation. Can cause defatting of skin which may lead to dermatitis.

INHALATION:
Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

INGESTION:
May cause mouth, throat, esophagus and stomach irritation, nausea, vomiting and diarrhea.

MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.
Preexisting eye, skin, liver, kidney and respiratory disorders.

EMERGENCY AND FIRST AID PROCEDURES:
In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention immediately.

CALIFORNIA PROPOSITION 65 INFORMATION:
WARNING - This product contains a chemical(s) known to the State of California to cause cancer.

OTHER HEALTH HAZARDS:

STYRENE MONOMER
The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans". This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and has published the following statement. "Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene."
An increased incidence of lung tumors was observed in mice from a recent inhalation study. The relevance of this finding is uncertain. Data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.
Lung effects have been observed in the mouse following repeated exposure to styrene.

TALC
Talc, Hydrous Magnesium Silicate, contains crystalline silica at levels greater than 0.1% but less than 1.0%. "IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Supplement 7, 1987", concludes there is limited evidence for the carcinogenicity of crystalline silica to humans, Class 2A. This classification was based on exposure to free silica dust and is not expected to be relevant to trace amounts of crystalline silica dispersed in paints and plastics.

product during welding and flame cutting on surfaces coated with this product. In confined areas, use only with forced ventilation adequate to keep vapor concentration below 20% of lower explosion limits. Refer to OSHA Standards 29CFR 1910.94, 1910.107, 1910.108.

NOTE: Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources (nonexplosion-proof motors, etc.) should be eliminated.

PROTECTIVE GLOVES:
Use solvent impermeable gloves to avoid contact with product.

EYE PROTECTION:
Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:
Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:
Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near emptied containers. Follow all hazard precautions given in this data sheet until container is thoroughly cleaned or destroyed. If this product is blended with other components such as thinners, converter, colorants and catalysts prior to use, read all warning labels. Any mixture of components will have hazards of all components. Follow all precautions. If spraying this material, keep spray booths clean. Avoid buildup of spray dust or overspray in booths or ducts.

KEEP OUT OF REACH OF CHILDREN FOR INDUSTRIAL USE ONLY

ADDITIONAL ENVIRONMENTAL INFORMATION:
The VOC quantity listed in Section III is a total theoretical loss value. Under typical conditions only half this amount might be lost to the atmosphere. Loss will vary due to temperature, humidity, film thickness, air movement, spray equipment/techniques, catalyzation, gel and cure rates, etc. If precise values are needed, it is suggested that onsite testing be conducted.

SECTION X Sara Title III Information

SARA 313 INFORMATION:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

METHYL METHACRYLATE
CAS# 000080-62-6 PCT BY WT: 4.7460

STYRENE MONOMER
CAS# 000100-42-5 PCT BY WT: 32.9370

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: POLYCOR
DESCRIPTION: SAND
PRODUCT CODE IDENTITY: 944IC085
NPCA HMIS RATING: H 2* F 3 R 2

REVISION: 01
LAST REVISED : 03/03/2003
DATE OF ISSUE: 03/20/2003

COMPANY NAME: COOK COMPOSITES AND POLYMERS CO.
ADDRESS: 820 E. 14th AVENUE
NORTH KANSAS CITY, MO 64116

CUSTOMER:

PREPARED BY:
HAZARD COMMUNICATION DEPT.
INFORMATION TELEPHONE:
COMPOSITES: 1-800-821-3590
POLYMERS: 1-800-488-5541

ATTENTION:

TRANSPORTATION EMERGENCY TELEPHONE (CHEMTREC): 1-800-424-9300

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

*** The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications. ***

SECTION II INGREDIENTS

1
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 4.6000 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:

ACGIH TLV/TWA:	100 PPM (410 MG/CU.M.)
OSHA PEL/TWA:	100 PPM (410 MG/CU.M.)
LD50, Oral:	7.9 G/KG (RAT)
LD50, Dermal:	35.5 G/KG (RABBIT)
LC50, Inhalation:	>12,500 PPM/0.5H (RAT)

2
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 32.1230 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:

ACGIH TLV/TWA:	20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL:	40 PPM (170 MG/CU.M.)
OSHA PEL/TWA:	100 PPM (8 HR TWA)
OSHA PEL/CEILING:	ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL:	ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)
LD50, Oral:	4.37 G/KG (RAT)
LD50, Dermal:	>5 G/KG (RABBIT)
OTHER:	LCLO: 5000 PPM/8H (RAT)
OTHER (cont.):	NIOSH TWA: 50 PPM (215 MG/M3)

OTHER LIMITS:
IARC - Group 2B See Section V

3
CAS# 014807-96-6
TALC (HYDROUS MAGNESIUM SILICATE)
PCT BY WT: 10 - 20

Irritation. Can cause defatting of skin which may lead to dermatitis.

INHALATION:
Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

INGESTION:
May cause mouth, throat, esophagus and stomach irritation, nausea, vomiting and diarrhea.

MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.
Preexisting eye, skin, liver, kidney and respiratory disorders.

EMERGENCY AND FIRST AID PROCEDURES:
In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention immediately.

CALIFORNIA PROPOSITION 65 INFORMATION:
WARNING - This product contains a chemical(s) known to the State of California to cause cancer.

OTHER HEALTH HAZARDS:

STYRENE MONOMER
The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans". This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and has published the following statement. "Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene."
An increased incidence of lung tumors was observed in mice from a recent inhalation study. The relevance of this finding is uncertain. Data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.
Lung effects have been observed in the mouse following repeated exposure to styrene.

TALC
Talc, Hydrous Magnesium Silicate, contains crystalline silica at levels greater than 0.1% but less than 1.0%. "IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Supplement 7, 1987", concludes there is limited evidence for the carcinogenicity of crystalline silica to humans, Class 2A. This classification was based on exposure to free silica dust and is not expected to be relevant to trace amounts of crystalline silica dispersed in paints and plastics.

CARBON BLACK
The IARC evaluation in Monograph 65 concluded that "there is sufficient evidence in experimental animals for the carcinogenicity of Carbon Black". Based on this evaluation, along with their evaluation of inadequate evidence of carcinogenicity in humans, IARC's overall evaluation is that "carbon black is possibly carcinogenic to humans (Group 2B)". Many inhalation toxicologists believe that the tumor response observed in the referenced rat studies is species specific and does not correlate to human exposure.
Carbon black has not been listed as a carcinogen by the National Toxicology Program (NTP) or the Occupational Safety and Health Admini-

EYE PROTECTION:
Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:
Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:
Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near emptied containers. Follow all hazard precautions given in this data sheet until container is thoroughly cleaned or destroyed. If this product is blended with other components such as thinners, converter, colorants and catalysts prior to use, read all warning labels. Any mixture of components will have hazards of all components. Follow all precautions. If spraying this material, keep spray booths clean. Avoid buildup of spray dust or overspray in booths or ducts.

KEEP OUT OF REACH OF CHILDREN FOR INDUSTRIAL USE ONLY

ADDITIONAL ENVIRONMENTAL INFORMATION:
The VOC quantity listed in Section III is a total theoretical loss value. Under typical conditions only half this amount might be lost to the atmosphere. Loss will vary due to temperature, humidity, film thickness, air movement, spray equipment/techniques, catalyzation, gel and cure rates, etc. If precise values are needed, it is suggested that onsite testing be conducted.

SECTION X Sara Title III Information

SARA 313 INFORMATION:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

METHYL METHACRYLATE
CAS# 000080-62-6 PCT BY WT: 4.6000

STYRENE MONOMER
CAS# 000100-42-5 PCT BY WT: 32.1230

DISCLAIMER AND LIMITATION OF LIABILITY

The products sold hereunder shall meet Seller's applicable specifications at the time of shipment. Seller's specifications may be subject to change at any time without notice to Buyer. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the Product Code(s), description and date of purchase) within thirty (30) days of the date of shipment of the product or prior to the expiration of the shipment's quality life, whichever occurs first. THE WARRANTY DESCRIBED HEREIN SHALL BE IN LIEU OF ANY OTHER

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: POLYCOR Gelcoat
DESCRIPTION: BASE WHITE
PRODUCT CODE IDENTITY: 944W005
NPCA HMIS RATING: H 2* F 3 R 2

REVISION: 21
LAST REVISED : 05/18/2000
DATE OF ISSUE: 01/17/2003

COMPANY NAME: COOK COMPOSITES AND POLYMERS CO.
ADDRESS: 820 E. 14th AVENUE
NORTH KANSAS CITY, MO 64116

CUSTOMER:

PREPARED BY:
HAZARD COMMUNICATION DEPT.
INFORMATION TELEPHONE:
COMPOSITES: 1-800-821-3590
POLYMERS: 1-800-488-5541

ATTENTION:

TRANSPORTATION EMERGENCY TELEPHONE (CHEMTREC): 1-800-424-9300

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

*** The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications. ***

SECTION II INGREDIENTS

1
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 4.9680 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:

ACGIH TLV/TWA:	100 PPM (410 MG/CU.M.)
OSHA PEL/TWA:	100 PPM (410 MG/CU.M.)
LD50, Oral:	7.9 G/KG (RAT)
LD50, Dermal:	35.5 G/KG (RABBIT)
LC50, Inhalation:	>12,500 PPM/0.5H (RAT)

2
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 30.7770 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:

ACGIH TLV/TWA:	20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL:	40 PPM (170 MG/CU.M.)
OSHA PEL/TWA:	100 PPM (8 HR TWA)
OSHA PEL/CEILING:	ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL:	ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)
LD50, Oral:	4.37 G/KG (RAT)
LD50, Dermal:	>5 G/KG (RABBIT)
OTHER:	LCLO: 5000 PPM/8H (RAT)
OTHER (cont.):	NIOSH TWA: 50 PPM (215 MG/M3)

OTHER LIMITS:
IARC - Group 2B See Section V

3
CAS# 013463-67-7
TITANIUM DIOXIDE
PCT BY WT: 10 - 20

Coefficient of Water/Oil Distribution: -N/A
Mechanical Impact Explosion: NO KNOWN HAZARD
Static Electricity Explosion: AVOID STATIC CHARGE

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CHARACTERISTICS:
Lowest Closed Cup Flashpoint: 82.0 degrees F
For Flash Points 73 to 100 deg. F.
OSHA Flammability Classification: Class IC
DOT Flammability Classification: Flammable Liquid
Lower Flammable Limit in Air: Lower- 1.1 % by volume
DOT Shipping Name:
Flash Points 73 to 100 deg. F. = RESIN SOLUTION, 3, UN1866, PG III
EXTINGUISHING MEDIA:
Foam, carbon dioxide, dry chemical, water fog.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
If polymerization takes place in a container, there is possibility of violent rupture of the container. Vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks resulting in stoppage of vents. Vapors may cause flash fire. Keep containers tightly closed and isolate from heat, electrical equipment, sparks and flame. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
SPECIAL FIRE FIGHTING PROCEDURES:
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.
ADDITIONAL TRANSPORTATION INFORMATION:
Freight Classification:
NMFC: 46030 RESIN COMPOUNDS, LIQUID LTL CLASS 55

SECTION V HEALTH HAZARD DATA

EFFECTS OF EXCESSIVE OVEREXPOSURE. PRIMARY ROUTES OF ENTRY ARE:
EYE CONTACT:
Irritation. Symptoms are tearing, redness and discomfort.
SKIN CONTACT:
Irritation. Can cause defatting of skin which may lead to dermatitis.
INHALATION:
Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
INGESTION:
May cause mouth, throat, esophagus and stomach irritation, nausea, vomiting and diarrhea.
MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition (flames, hot surfaces, and electrical, static, or frictional sparks). Avoid breathing vapors. Ventilate area. Contain and remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD:
Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers. Incinerate in approved facility.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
Do not breathe or ingest vapors, spray mist or dust while applying, sanding, grinding, or sawing cured product. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during application and other use of this product until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapor, mist and dust levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Observe OSHA Standard 29CFR 1910.134.

VENTILATION:
Provide general clean air dilution or local exhaust ventilation in volume and pattern to keep the air contaminant concentration below the lower explosion limit and below current applicable exposure limits in the mixing, application and curing areas; and to remove decomposition product during welding and flame cutting on surfaces coated with this product. In confined areas, use only with forced ventilation adequate to keep vapor concentration below 20% of lower explosion limits. Refer to OSHA Standards 29CFR 1910.94, 1910.107, 1910.108.

NOTE: Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources (nonexplosion-proof motors, etc.) should be eliminated.

PROTECTIVE GLOVES:
Use solvent impermeable gloves to avoid contact with product.

EYE PROTECTION:
Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:
Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:
Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near emptied containers. Follow all hazard precautions given in this data sheet until container is thoroughly cleaned or destroyed. If this product is blended with other components such as thinners, converter, colorants and catalysts prior to use, read all warning labels. Any mixture of components will have hazards of all components. Follow all precautions. If spraying this material, keep spray booths clean. Avoid buildup of

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: POLYCOR
DESCRIPTION: BLACK TOOLING
PRODUCT CODE IDENTITY: 945B201
NPCA HMIS RATING: H 2* F 3 R 2

REVISION: 24
LAST REVISED : 11/07/2002
DATE OF ISSUE: 02/11/2003

COMPANY NAME: COOK COMPOSITES AND POLYMERS CO.
ADDRESS: 820 E. 14th AVENUE
NORTH KANSAS CITY, MO 64116
CUSTOMER:

PREPARED BY:
HAZARD COMMUNICATION DEPT.
INFORMATION TELEPHONE:
COMPOSITES: 1-800-821-3590
POLYMERS: 1-800-488-5541

ATTENTION:

TRANSPORTATION EMERGENCY TELEPHONE (CHEMTREC): 1-800-424-9300

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

*** The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications. ***

SECTION II INGREDIENTS

1
CAS# 001333-86-4
CARBON BLACK
PCT BY WT: .1400
EXPOSURE LIMIT:
ACGIH TLV/TWA: 3.5 MG/CU.M.
OSHA PEL/TWA: 3.5 MG/CU.M.
LD50, Oral: NOT AVAILABLE
LD50, Dermal: NOT AVAILABLE
LC50, Inhalation: NOT AVAILABLE

2
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 4.4550 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 100 PPM (410 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (410 MG/CU.M.)
LD50, Oral: 7.9 G/KG (RAT)
LD50, Dermal: 35.5 G/KG (RABBIT)
LC50, Inhalation: >12,500 PPM/0.5H (RAT)

3
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 43.6510 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL: 40 PPM (170 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (8 HR TWA)
OSHA PEL/CEILING: ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL: ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)

Lowest Closed Cup Flashpoint: 82.0 degrees F
For Flash Points 73 to 100 deg. F.
OSHA Flammability Classification: Class IC
DOT Flammability Classification: Flammable Liquid
Lower Flammable Limit in Air: Lower- 1.1 % by volume
DOT Shipping Name:
Flash Points 73 to 100 deg. F. = RESIN SOLUTION, 3, UN1866, PG III
EXTINGUISHING MEDIA:
Foam, carbon dioxide, dry chemical, water fog.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
If polymerization takes place in a container, there is possibility of violent rupture of the container. Vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks resulting in stoppage of vents. Vapors may cause flash fire. Keep containers tightly closed and isolate from heat, electrical equipment, sparks and flame. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
SPECIAL FIRE FIGHTING PROCEDURES:
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.
ADDITIONAL TRANSPORTATION INFORMATION:
Freight Classification:
NMFC: 46030 RESIN COMPOUNDS, LIQUID LTL CLASS 55

SECTION V HEALTH HAZARD DATA

EFFECTS OF EXCESSIVE OVEREXPOSURE. PRIMARY ROUTES OF ENTRY ARE:
EYE CONTACT:
Irritation. Symptoms are tearing, redness and discomfort.
SKIN CONTACT:
Irritation. Can cause defatting of skin which may lead to dermatitis.
INHALATION:
Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
INGESTION:
May cause mouth, throat, esophagus and stomach irritation, nausea, vomiting and diarrhea.
MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.
Preexisting eye, skin, liver, kidney and respiratory disorders.
EMERGENCY AND FIRST AID PROCEDURES:
In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention immediately.
CALIFORNIA PROPOSITION 65 INFORMATION:
WARNING - This product contains a chemical(s) known to the State of

INCOMPATABILITY (MATERIALS TO AVOID):
Oxidizers, peroxides, strong acids, aluminum chloride and vinyl polymers

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition or combustion can produce fumes containing organic acids, carbon dioxide and carbon monoxide.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition (flames, hot surfaces, and electrical, static, or frictional sparks). Avoid breathing vapors. Ventilate area. Contain and remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD:
Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers. Incinerate in approved facility.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
Do not breathe or ingest vapors, spray mist or dust while applying, sanding, grinding, or sawing cured product. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during application and other use of this product until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapor, mist and dust levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Observe OSHA Standard 29CFR 1910.134.

VENTILATION:
Provide general clean air dilution or local exhaust ventilation in volume and pattern to keep the air contaminant concentration below the lower explosion limit and below current applicable exposure limits in the mixing, application and curing areas; and to remove decomposition product during welding and flame cutting on surfaces coated with this product. In confined areas, use only with forced ventilation adequate to keep vapor concentration below 20% of lower explosion limits. Refer to OSHA Standards 29CFR 1910.94, 1910.107, 1910.108.

NOTE: Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources (nonexplosion-proof motors, etc.) should be eliminated.

PROTECTIVE GLOVES:
Use solvent impermeable gloves to avoid contact with product.

EYE PROTECTION:
Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:
Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:
Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat,

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: POLYCOR
DESCRIPTION: HG RETENTION GREEN TOOLING
PRODUCT CODE IDENTITY: 945GA104
NPCA HMIS RATING: H 2* F 3 R 1

REVISION: 03
LAST REVISED : 04/27/2001
DATE OF ISSUE: 03/29/2002

COMPANY NAME: COOK COMPOSITES AND POLYMERS CO.
ADDRESS: 820 E. 14th AVENUE
NORTH KANSAS CITY, MO 64116

PREPARED BY:
HAZARD COMMUNICATION DEPT.
INFORMATION TELEPHONE:
COMPOSITES: 1-800-821-3590
POLYMERS: 1-800-488-5541

CUSTOMER:

ATTENTION:

TRANSPORTATION EMERGENCY TELEPHONE (CHEMTREC): 1-800-424-9300

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

*** The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications. ***

SECTION II INGREDIENTS

1
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 4.9470 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 100 PPM (410 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (410 MG/CU.M.)
LD50, Oral: 7.9 G/KG (RAT)
LD50, Dermal: 35.5 G/KG (RABBIT)
LC50, Inhalation: >12,500 PPM/0.5H (RAT)

2
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 42.2930 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL: 40 PPM (170 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (8 HR TWA)
OSHA PEL/CEILING: ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL: ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)
LD50, Oral: 4.37 G/KG (RAT)
LD50, Dermal: >5 G/KG (RABBIT)
OTHER: LCLO: 5000 PPM/8H (RAT)
OTHER LIMITS:
IARC - Group 2B See Section V

3
CAS# 112926-00-8
SILICA, AMORPHOUS-SILICA GEL
PCT BY WT: 1 - 5
EXPOSURE LIMIT:

Water Solubility: -N/A
Coefficient of Water/Oil Distribution: -N/A
Mechanical Impact Explosion: -N/A
Static Electricity Explosion: -N/A

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CHARACTERISTICS:
Lowest Closed Cup Flashpoint: 82.0 degrees F
For Flash Points 73 to 100 deg. F.
OSHA Flammability Classification: Class IC
DOT Flammability Classification: Flammable Liquid
Lower Flammable Limit in Air: Lower- 1.1 % by volume
DOT Shipping Name:
Flash Points 73 to 100 deg. F. = RESIN SOLUTION, 3, UN1866, PG III
EXTINGUISHING MEDIA:
Foam, carbon dioxide, dry chemical, water fog.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
If polymerization takes place in a container, there is possibility of violent rupture of the container. Vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks resulting in stoppage of vents. Vapors may cause flash fire. Keep containers tightly closed and isolate from heat, electrical equipment, sparks and flame. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
SPECIAL FIRE FIGHTING PROCEDURES:
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.
ADDITIONAL TRANSPORTATION INFORMATION:
Freight Classification:
NMFC: 46030 RESIN COMPOUNDS, LIQUID LTL CLASS 55

SECTION V HEALTH HAZARD DATA

EFFECTS OF EXCESSIVE OVEREXPOSURE. PRIMARY ROUTES OF ENTRY ARE:
EYE CONTACT:
Irritation. Symptoms are tearing, redness and discomfort.
SKIN CONTACT:
Irritation. Can cause defatting of skin which may lead to dermatitis.
INHALATION:
Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
INGESTION:
May cause mouth, throat, esophagus and stomach irritation, nausea,

material before adding catalyst.

INCOMPATABILITY (MATERIALS TO AVOID):

Oxidizers, peroxides, strong acids, aluminum chloride and vinyl polymers

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition or combustion can produce fumes containing organic acids, carbon dioxide and carbon monoxide.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition (flames, hot surfaces, and electrical, static, or frictional sparks). Avoid breathing vapors. Ventilate area. Contain and remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD:

Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers. Incinerate in approved facility.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

Do not breathe or ingest vapors, spray mist or dust while applying, sanding, grinding, or sawing cured product. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during application and other use of this product until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapor, mist and dust levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Observe OSHA Standard 29CFR 1910.134.

VENTILATION:

Provide general clean air dilution or local exhaust ventilation in volume and pattern to keep the air contaminant concentration below the lower explosion limit and below current applicable exposure limits in the mixing, application and curing areas; and to remove decomposition product during welding and flame cutting on surfaces coated with this product. In confined areas, use only with forced ventilation adequate to keep vapor concentration below 20% of lower explosion limits. Refer to OSHA Standards 29CFR 1910.94, 1910.107, 1910.108.

NOTE: Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources (nonexplosion-proof motors, etc.) should be eliminated.

PROTECTIVE GLOVES:

Use solvent impermeable gloves to avoid contact with product.

EYE PROTECTION:

Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:

Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:

Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: POLYCOR
DESCRIPTION: L/F ORANGE TOOLING
PRODUCT CODE IDENTITY: 945YA058
NPCA HMIS RATING: H 2* F 3 R 2

REVISION: 07
LAST REVISED : 11/07/2002
DATE OF ISSUE: 01/28/2003

COMPANY NAME: COOK COMPOSITES AND POLYMERS CO.
ADDRESS: 820 E. 14th AVENUE
NORTH KANSAS CITY, MO 64116

CUSTOMER:

PREPARED BY:
HAZARD COMMUNICATION DEPT.
INFORMATION TELEPHONE:
COMPOSITES: 1-800-821-3590
POLYMERS: 1-800-488-5541

ATTENTION:

TRANSPORTATION EMERGENCY TELEPHONE (CHEMTREC): 1-800-424-9300

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

* *
*** The percent by weight composition data given in Sections II and X are NOT SPECIFICATIONS, but are based on 'target' formula values for each ingredient in the product. The data are presented as ranges for low hazard ingredients and single point values for ingredients of regulatory concern. Actual batch concentrations will vary within limits consistent with separately established product specifications. ***
* *

SECTION II INGREDIENTS

1
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 4.5950 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 100 PPM (410 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (410 MG/CU.M.)
LD50, Oral: 7.9 G/KG (RAT)
LD50, Dermal: 35.5 G/KG (RABBIT)
LC50, Inhalation: >12,500 PPM/0.5H (RAT)

2
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 41.9590 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL: 40 PPM (170 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (8 HR TWA)
OSHA PEL/CEILING: ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL: ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)
LD50, Oral: 4.37 G/KG (RAT)
LD50, Dermal: >5 G/KG (RABBIT)
OTHER: LCLO: 5000 PPM/8H (RAT)
OTHER (cont.): NIOSH TWA: 50 PPM (215 MG/M3)
OTHER LIMITS:
IARC - Group 2B See Section V

3
CAS# 112926-00-8
SILICA, AMORPHOUS-SILICA GEL
PCT BY WT: 1 - 5

Mechanical Impact Explosion: NO KNOWN HAZARD
Static Electricity Explosion: AVOID STATIC CHARGE

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CHARACTERISTICS:
Lowest Closed Cup Flashpoint: 82.0 degrees F
For Flash Points 73 to 100 deg. F.
OSHA Flammability Classification: Class IC
DOT Flammability Classification: Flammable Liquid
Lower Flammable Limit in Air: Lower- 1.1 % by volume
DOT Shipping Name:
Flash Points 73 to 100 deg. F. = RESIN SOLUTION, 3, UN1866, PG III
EXTINGUISHING MEDIA:
Foam, carbon dioxide, dry chemical, water fog.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
If polymerization takes place in a container, there is possibility of violent rupture of the container. Vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks resulting in stoppage of vents. Vapors may cause flash fire. Keep containers tightly closed and isolate from heat, electrical equipment, sparks and flame. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
SPECIAL FIRE FIGHTING PROCEDURES:
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.
ADDITIONAL TRANSPORTATION INFORMATION:
Freight Classification:
NMFC: 46030 RESIN COMPOUNDS, LIQUID LTL CLASS 55

SECTION V HEALTH HAZARD DATA

EFFECTS OF EXCESSIVE OVEREXPOSURE. PRIMARY ROUTES OF ENTRY ARE:
EYE CONTACT:
Irritation. Symptoms are tearing, redness and discomfort.
SKIN CONTACT:
Irritation. Can cause defatting of skin which may lead to dermatitis.
INHALATION:
Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
INGESTION:
May cause mouth, throat, esophagus and stomach irritation, nausea, vomiting and diarrhea.
MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.
Preexisting eye, skin, liver, kidney and respiratory disorders.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition (flames, hot surfaces, and electrical, static, or frictional sparks). Avoid breathing vapors. Ventilate area. Contain and remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD:
Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers. Incinerate in approved facility.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
Do not breathe or ingest vapors, spray mist or dust while applying, sanding, grinding, or sawing cured product. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during application and other use of this product until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapor, mist and dust levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Observe OSHA Standard 29CFR 1910.134.

VENTILATION:
Provide general clean air dilution or local exhaust ventilation in volume and pattern to keep the air contaminant concentration below the lower explosion limit and below current applicable exposure limits in the mixing, application and curing areas; and to remove decomposition product during welding and flame cutting on surfaces coated with this product. In confined areas, use only with forced ventilation adequate to keep vapor concentration below 20% of lower explosion limits. Refer to OSHA Standards 29CFR 1910.94, 1910.107, 1910.108.

NOTE: Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources (nonexplosion-proof motors, etc.) should be eliminated.

PROTECTIVE GLOVES:
Use solvent impermeable gloves to avoid contact with product.

EYE PROTECTION:
Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:
Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:
Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near emptied containers. Follow all hazard precautions given in this data sheet until container is thoroughly cleaned or destroyed. If this product is blended with other components such as thinners, converter, colorants and catalysts prior to use, read all warning labels. Any mixture of components will have hazards of all components. Follow all precautions. If spraying this material, keep spray booths clean. Avoid buildup of

INTERPLASTIC CORPORATION
1225 Willow Lake Boulevard
St. Paul, MN 55110-5145
(651) 481-6860

CHEMTREC 24-Hour Emergency Telephone (800) 424-9300

ATTN: PLANT MGR/SAFETY DIR

Issue Date:
Revision Date: 12/09/03
MSDS File ID: MSDSLET3
Customer No:
Warehouse No: 0007

This MSDS complies with 29 CFR 1910.1200 (Hazard Communication).

SECTION I - PRODUCT IDENTIFICATION

Product Name: B-1145-IHM MEDIUM GRAY ISO GEL COAT
General or Generic ID: Unsaturated Polyester Resin
Hazard Classification: Flammable Liquid
Shipping Name: Resin Solution, 3, UN1866, PG III

SECTION II - HAZARDOUS COMPONENTS

INGREDIENT	CAS NO.	PERCENT	OSHA-PEL	ACGIH-TL	NOTE
Styrene	100-42-5	34-40	50 ppm TWA	50 ppm	(1)

(1) OSHA has formally endorsed a styrene industry proposal for a voluntary 50 ppm PEL for workplace exposure to styrene. This proposal was agreed upon by representatives of the UPR industry. The OSHA STEL is 100 ppm. The ACGIH recently changed the TLV for styrene from 50 ppm to 20 ppm, and the STEL from 100 ppm to 40 ppm.

SECTION III - PHYSICAL DATA

PROPERTY		MEASUREMENT
Initial Boiling Point	For Styrene	293.40 Deg F (145.22 Deg C) @ 760.00 mm Hg
Vapor Pressure	For Styrene	4.3 mm Hg 68 Deg F (20 Deg C)
Specific Gravity		1.21 - 1.25 @ 77 Deg F (25 Deg C)
Vapor Density	Air = 1	3.6
Evaporation Rate		Slower than Ether

SECTION V - HEALTH DATA (continued)

TARGET ORGAN EFFECTS

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals, and may aggravate pre-existing disorders of these organs in humans: mild, reversible kidney effects, effects on hearing, respiratory tract (nose, throat, and airways), testis, liver. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans, and may aggravate pre-existing disorders of these organs: central nervous system effects, mild effects on color vision, effects on hearing, and respiratory tract damage (nose, throat, and airways).

FIRST AID

If on Skin: Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder contaminated clothing before re-use.

If in Eyes: Flush with large amount of water, lifting upper and lower lids occasionally. Get medical attention.

If Swallowed: Do not induce vomiting. Keep person warm, quiet, and get medical attention. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis which can be fatal.

If Inhaled: If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep person warm, quiet, and get medical attention.

PRIMARY ROUTE(S) OF ENTRY

Inhalation, skin absorption, skin contact, eye contact.

SECTION IX - SPECIAL PRECAUTIONS

Containers of this material may be hazardous when empty. Since empty containers retain product residues (vapors, liquid, and/or solids), all hazard precautions given in this MSDS must be observed.

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with Interplastic or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

SECTION X - SUPPLEMENT

Styrene has been identified as a possible human carcinogen by the International Agency for Research on Cancer (IARC). The IARC determination is based on "limited evidence" in animals and other "relevant data." IARC concedes there is "inadequate evidence" on humans for its findings.

The Styrene Information and Research Center (SIRC) recently sponsored studies to evaluate potential health effects in laboratory rats and mice exposed by inhalation to styrene for six hours per day for five days per week of their lifetime. The rat study, completed in 1996, showed no increased incidence of tumors related to styrene exposure at levels up to 1000 parts per million (ppm). The results of the mouse study are in the process of being analyzed, and so far only the lungs have been evaluated. The number of lung tumors observed at exposure levels of 20 to 160 ppm was increased as compared to the number of tumors seen in unexposed mice. These lung tumor results from the mouse study have been added to the MSDS for styrene.

The lung effects in the new mouse study are in contrast to findings in other studies in both rodents and humans, including the recent SIRC-sponsored study in rats. No link between styrene exposure and an increased incidence of cancer has been found collectively in eight studies of workers in the reinforced plastics and composites industries prior to 1992, or in two subsequent studies of composites/reinforced plastics workers. All together, over 90,000 people have been studied. Exposure levels in these industries are above the levels routinely measured in styrene and polystyrene production.

Also in the recent animal studies, irritation and degenerative effects on the olfactory cells in the nose (responsible for the sense of smell) were observed in mice exposed repeatedly by inhalation to 20 ppm and above, and in rats exposed to 50 ppm and above. Atrophy (degeneration) of the olfactory nerve was observed at levels at or above 40 ppm in mice and at or above 500 ppm in rats. SIRC is conducting follow-up research to further understand these findings and their possible importance to humans. Liver damage has been reported in mice at exposure levels of 100 ppm or above; comparable liver damage has not been reported in rats or humans exposed to styrene. It appears that mice are more sensitive to styrene than are other species. Information about potential damage to olfactory cells, irritation in the respiratory tract, and potential liver damage has been added to the MSDS for styrene.

We recommend that the precautions in this MSDS be followed.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity
Product Name: HETRON FR 620 T 20
Product Code: 563487

Company
Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:
1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
POLYMER (S)	Trade Secret	64.0- 68.0
STYRENE	100-42-5	32.3
DIMETHYL METHYLPHOSPHONATE	756-79-6	0.8

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye
Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin
Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

Swallowing
Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation
Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Continued on next page

Skin
Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing
Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation
If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Note to Physicians
This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 - Swallowing) when deciding whether to induce vomiting. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: respiratory tract, skin, lung (for example, asthma-like conditions), liver, male reproductive system, auditory system.

5. FIRE FIGHTING MEASURES

Flash Point
80.0 - 90.0 F (26.6 - 32.2 C) SETA

Explosive Limit
(for component) Lower 1.1 Upper 6.1 %

Autoignition Temperature
No data

Hazardous Products of Combustion
May form: carbon dioxide and carbon monoxide, toxic fumes, various hydrocarbons.

Fire and Explosion Hazards
Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. During a fire, irritating or toxic decomposition products may be generated.

Extinguishing Media
regular foam, water fog, carbon dioxide, dry chemical.

Continued on next page

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection
Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection
Wear resistant gloves (consult your safety equipment supplier). To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protections
If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines
Component

POLYMER (S)
No exposure limits established

STYRENE (100-42-5)
OSHA PEL 100.000 ppm - TWA
OSHA PEL 200.000 ppm - Ceiling
OSHA VPEL 50.000 ppm - TWA
OSHA VPEL 100.000 ppm - STEL
ACGIH TLV 20.000 ppm - TWA (Skin)
ACGIH TLV 40.000 ppm - STEL (Skin)

DIMETHYL METHYLPHOSPHONATE (756-79-6)
No exposure limits established

OSHA has formally endorsed a styrene industry proposal for a voluntary 50 ppm workplace limit on styrene. Members of the Styrene Information and Research Council (SIRC), Composites Institute (CI), Composite Fabricators Association (CFA), International Cast Polymers Association (ICPA) and National Marine Manufacturers Association (NMMA) have agreed to use either engineering controls, work practices or respiratory protection to achieve this voluntary limit for styrene.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point
(for component) 293.4 F (145.2 C) @ 760 mmHg

Continued on next page

Chemical Stability
Stable. Avoid heat, open flame, and prolonged storage at elevated temperatures. This material is unstable at elevated temperatures and pressures.

Incompatibility
Avoid contact with: acids, aluminum chloride, excessive heat, halogens, iron chloride, metal salts, peroxides, strong alkalies, strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information
Dispose of in accordance with all applicable local, state and federal regulations. Do not discharge effluent containing this product into lakes, streams, ponds or estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution Company, IC&S Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:
RESIN SOLUTION,3,UN1866,III

Container/Mode:
55 GAL DRUM/TRUCK PACKAGE

NOS Component:
None

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs)	Component
3090	STYRENE MONOMER

Continued on next page

Styrene, in the presence of air and high temperature or prolonged exposure to styrene/air mixture to sunlight, can react to form styrene oxide. Styrene oxide is a chemical known to the state of California to cause cancer.

New Jersey RTK Label Information

STYRENE MONOMER	100-42-5

Pennsylvania RTK Label Information

BENZENE, ETHENYL-	100-42-5

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

M A T E R I A L S A F E T Y D A T A S H E E T
COATINGS, RESINS, AND RELATED MATERIALS

MANUFACTURED BY:
Eastman Chemical Company
400 East Cottage Place
Carpentersville, IL. 60110

EMERGENCY CONTACT :CHEMTREC 1-800-424-9300
(OUTSIDE US/CANADA:CHEMTREC 703-527-3887)

INFORMATION CONTACT:1-888-CALL-MWT (DURING NORMAL BUSINESS HOURS)
DATE OF PREP: 3/14/01 SUPERSEDES DATE: 3/01/01 DATE OF PRINT: 5/04/01

SECTION I. PRODUCT IDENTIFICATION

PRODUCT CODE: (INTERNAL REF.#162)
168-0616
PRODUCT NAME :
UP RESIN 733TYPE DCPD LAM RES
SHIPPING DESCRIPTION:
RESIN SOLUTION,
3, UN 1866, PG III
MARINE POLLUTANT, CONTAINS:
STYRENE
ALPHA METHYLSTYRENE

SECTION II. HAZARDOUS INGREDIENTS

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM
HEALTH: 2 * FLAMMABILITY: 3
REACTIVITY: 1

INGREDIENT / CAS NO.	WT. PERCENT	WORKPLACE EXPOSURE LIMITS ppm	mg/m3	SOURCE	VAPOR PRESSURE (mm Hg @68F)	LEL
STYRENE						
100-42-5	34.1					
		20.000	85.000	TWA/ACGIH TLV	4.30	1.10
		40.000	170.000	STEL/ACGIH TLV		
		100.000		TWA/OSHA PEL		
		600.000		STEL/OSHA PEL		
		200.000		CEILING/OSHA PEL		
		50.000	215.000	TWA/NIOSH REL		
		100.000	425.000	STEL/NIOSH REL		
		700.0		NIOSH IDLH		
ALPHA METHYLSTYRENE						
98-83-9	0.5					
		50.000	242.000	TWA/ACGIH TLV	1.00	1.90
		100.000	483.000	STEL/ACGIH TLV		
		100.000	480.000	CEILING/OSHA PEL		
		50.000	240.000	TWA/NIOSH REL		
		100.000	485.000	STEL/NIOSH REL		
		700.0		NIOSH IDLH		

SECTION III. PHYSICAL DATA

BOILING RANGE:	148-415 F	PERCENT VOLATILE BY VOL:	42.54
SPECIFIC GRAVITY	1.104	EVAPORATION RATE (n-Bu Ac=1):	0.44
VAPOR DENSITY (AIR=1):	2.961	VAPOR PRESSURE (mm Hg@68F):	3.63

Based upon a re-evaluation of previous negative and equivocal data and an increased incidence of lung tumors after oral administration in young adult mice, the International Agency for Research on Cancer (IARC) has listed styrene among those materials for which there is limited evidence for carcinogenicity in animals.

EMERGENCY AND FIRST AID PROCEDURES

--- EYES CONTACT:
Flush with clean, lukewarm water for at least 15 minutes, occasionally lifting the eyelids. Obtain medical attention.

--- SKIN CONTACT:
Remove contaminated clothing. Wash affected skin areas thoroughly with soap and water. Wash contaminated clothing thoroughly before re-use.

--- INHALATION:
Remove to fresh air. Apply artificial respiration or administer oxygen, if necessary. Call a physician immediately.

--- INGESTION:
Keep person warm, quiet and get immediate medical attention. Do not induce vomiting, because aspiration of material into the lungs from vomiting can cause chemical pneumonitis which can be fatal.

SECTION VI. REACTIVITY DATA

STABILITY:
Stable under normal conditions. Avoid exposure to excessive heat.

INCOMPATIBILITY:
Avoid contact with strong mineral acids, peroxides and polymerization catalysts.

HAZARDOUS POLYMERIZATION:
Can Occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield carbon dioxide and/or monoxide.

CALIFORNIA SCAQMD RULE 443.1:
This product contains photochemically reactive volatile organic compound(s). Refer to Section II and III.

SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Evacuate all non-essential personnel. Remove all sources of ignition. Ventilate the area. Equip employees with appropriate protection equipment (See Section VIII). Dike around spilled material. Cover spill with inert absorbent material and shovel with non-sparking tools into container. Remove containers to a safe

kidney damage, lung damage.

RECENT DATA DOES NOT SUPPORT THE CHANGE IN THE CLASSIFICATION BY IARC OF STYRENE TO BE A SUSPECTED CARCINOGEN.

> At the conclusion of a major notice and comment rulemaking revising its air contaminants regulations, OSHA concluded that the "current evidence on styrene's carcinogenicity does not support its classification in the final rule as a carcinogen." 54 Fed. Reg. 2430 (Jan. 19, 1989); see also 54 Fed. Reg. at 2364. In the same rulemaking, the National Institute for Occupational Safety and Health (NIOSH) commented that there "seems to be little basis from the experimental animal investigations or epidemiologic studies to conclude at this time that styrene is carcinogenic." Moreover, other scientists have independently concluded that styrene does not present a carcinogenic risk to humans. I. C. Munro, et al. "A Review of Styrene Pharmacokinetics and Carcinogenicity" (July 21, 1989)(CanTox Inc.)(U.S. EPA Safe Drinking Water Docket No. IID, Document III J2.86, Attachment C).

OTHER COMMENTS

We recommend that containers be either professionally reconditioned for reuse by certified firms or properly disposed of by certified firms to help reduce the possibility of an accident. Disposal of containers should be in accordance with applicable federal, state and local laws and regulations. "Empty" drums should not be given to individuals.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or completeness.

The conditions of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

SECTION V.	DISCLAIMER	168-0616(CONT.)

THE INFORMATION IN THIS MSDS AND ENVIRONMENTAL DATA SHEET WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, REGARDING ITS ACCURACY OR COMPLETENESS.

EASTMAN

MATERIAL SAFETY DATA SHEET

Revision Date: 04/29/2002
MSDSUSA/ANSI/EN/150000056704/Version 2.0

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Unsaturated Polyester Resin 170-7995
Product Identification Number(s)	170-7995, P2625000, P2625002, P2625004, P2625008, P262500H, P2625003
Manufacturer/Supplier	Eastman Chemical Company, Kingsport, Tennessee 37662
MSDS Prepared by	Eastman Product Safety and Stewardship
Chemical Name	not applicable
Synonym(s)	26250-00 979844
Molecular Formula	not applicable
Molecular Weight	not applicable
Product Use	industrial chemical
OSHA Status	hazardous

For emergency health, safety & environmental information, call 800-EASTMAN.

For emergency transportation information, call CHEMTREC at 800-424-9300 or call 800-EASTMAN.

2. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided.)

Weight %	Component	CAS Registry No.
55.1%	unsaturated polyester polymer	proprietary
37.2%	styrene	100-42-5
5%	methylmethacrylate	80-62-6
<0.5%	cobalt compound(s)	proprietary
<3%	residual additives, modifiers, colorants, reactants, and/or impurities	not applicable

3. HAZARDS IDENTIFICATION

WARNING!
CONTAINS STYRENE
POSSIBLE CANCER HAZARD - MAY CAUSE CANCER BASED ON ANIMAL DATA
HARMFUL IF INHALED, ABSORBED THROUGH SKIN, OR SWALLOWED
CAUSES SKIN AND EYE IRRITATION
FLAMMABLE LIQUID AND VAPOR
MAY FORM EXPLOSIVE PEROXIDES
MAY POLYMERIZE
MIST OR VAPOR IRRITATING TO EYES AND RESPIRATORY TRACT
MAY CAUSE ALLERGIC SKIN REACTION
HIGH VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS
THE PHYSICAL-CHEMICAL AND TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED

Prevention of Fire and Explosion: Keep away from heat, sparks, and flame. Keep from contact with oxidizing materials. Use only with adequate ventilation. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids. Do not expose to air. After opening, purge container with nitrogen before reclosing. Do not distill to near dryness. Periodically test for peroxide formation on long-term storage. If peroxide formation is suspected, do not open or move container. Addition of water or appropriate reducing materials will lessen peroxide formation.

Storage: Keep container tightly closed. Store in a cool place. Store away from heat and light. Protect from contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Country specific exposure limits have not been established or are not applicable unless listed below.

STYRENE, MONOMER

US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 20 ppm, 85 mg/m3
US. ACGIH Threshold Limit Values
Short Term Exposure Limit (STEL): 40 ppm, 170 mg/m3

STYRENE

US. NIOSH: Pocket Guide to Chemical Hazards
Recommended exposure limit (REL): 50 ppm, 215 mg/m3
US. NIOSH: Pocket Guide to Chemical Hazards
Short Term Exposure Limit (STEL): 100 ppm, 425 mg/m3
US. OSHA Table Z-2 (29 CFR 1910.1000)
Time Weighted Average (TWA): 100 ppm,
US. OSHA Table Z-2 (29 CFR 1910.1000)
Ceiling Limit Value: 200 ppm,
US. OSHA Table Z-2 (29 CFR 1910.1000)
Maximum concentration: 600 ppm, 5 minutes in any 3 hours
US. OSHA Table Z-1-A (29 CFR 1910.1000)
Time Weighted Average (TWA): 50 ppm, 215 mg/m3
US. OSHA Table Z-1-A (29 CFR 1910.1000)
Short Term Exposure Limit (STEL): 100 ppm, 425 mg/m3

STYRENE (MONOMER); PHENYLETHYLENE

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants
Time Weighted Average (TWA) Permissible Exposure Limit (PEL): 50 ppm, 215 mg/m3
US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants
Ceiling Limit Value: 500 ppm,
US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants
Short Term Exposure Limit (STEL): 100 ppm, 425 mg/m3
US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants
Skin designation: Can be absorbed through the skin.

METHYL METHACRYLATE

US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 50 ppm, 205 mg/m3
US. ACGIH Threshold Limit Values
Short Term Exposure Limit (STEL): 100 ppm, 410 mg/m3
US. NIOSH: Pocket Guide to Chemical Hazards
Recommended exposure limit (REL): 100 ppm, 410 mg/m3
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

12. ECOLOGICAL INFORMATION

This material has not been tested for environmental effects.

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

14. TRANSPORT INFORMATION

Marine pollutant components: none unless listed below

Reportable Quantity: 1,220 kg

DOT (USA): Class 3 Packing group III

TDG (Canada): Class 3 Packing group III

ICAO Status: Class 3 Packing group III

IMDG Status: Class 3 Packing group III

15. REGULATORY INFORMATION

WHMIS (Canada) Status: controlled
WHMIS (Canada) Hazard Classification: B/2, D/2/A

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard
delayed (chronic) health hazard
fire hazard

SARA 313: none, unless listed below
STYRENE
METHYLMETHACRYLATE
COBALT COMPOUND(S)

Carcinogenicity Classification (components present at 0.1% or more): none, unless listed below

M A T E R I A L S A F E T Y D A T A S H E E T
COATINGS, RESINS, AND RELATED MATERIALS

MANUFACTURED BY:
Eastman Chemical Company
400 East Cottage Place
Carpentersville, IL. 60110
INFORMATION CONTACT:1-888-CALL-MWT (DURING NORMAL BUSINESS HOURS)

EMERGENCY CONTACT :CHEMTREC 1-800-424-9300
(OUTSIDE US/CANADA:CHEMTREC 703-527-3887)

DATE OF PREP: 11/15/00 SUPERSEDES DATE: 11/14/00 DATE OF PRINT: 6/15/01

SECTION I. PRODUCT IDENTIFICATION

PRODUCT CODE: (INTERNAL REF.#162)
179-0561
PRODUCT NAME :
UP RESIN 752TYPE FR LAMIANTING
SHIPPING DESCRIPTION:
RESIN SOLUTION,
3, UN 1866, PG III
MARINE POLLUTANT, CONTAINS:
STYRENE

SECTION II. HAZARDOUS INGREDIENTS

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM
HEALTH: 2 * FLAMMABILITY: 3
REACTIVITY: 1

INGREDIENT / CAS NO.	WT. PERCENT	WORKPLACE EXPOSURE LIMITS ppm	mg/m3	SOURCE	VAPOR PRESSURE (mm Hg @68F)	LEL
STYRENE						
100-42-5	36.8					
		20.000	85.000	TWA/ACGIH TLV	4.30	1.10
		40.000	170.000	STEL/ACGIH TLV		
		100.000		TWA/OSHA PEL		
		600.000		STEL/OSHA PEL		
		200.000		CEILING/OSHA PEL		
		50.000	215.000	TWA/NIOSH REL		
		100.000	425.000	STEL/NIOSH REL		
		700.0		NIOSH IDLH		
TRIETHYL PHOSPHATE						
78-40-0	3.0					
		N/E	N/E	N/E	1.00	1.70

SECTION III. PHYSICAL DATA

BOILING RANGE: 148-415 F
SPECIFIC GRAVITY 1.273
VAPOR DENSITY (AIR=1): 2.745
VOLATILE ORGANIC CONTENT (VOC): N/A
APPEARANCE AND ODOR: light straw-colored solution - styrene odor
SOLUBILITY IN WATER: negligible

PERCENT VOLATILE BY VOL: 55.34
EVAPORATION RATE (n-Bu Ac=1): 0.59
VAPOR PRESSURE (mm Hg@68F): 2.97

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

EMERGENCY AND FIRST AID PROCEDURES

--- EYES CONTACT:
Flush with clean, lukewarm water for at least 15 minutes, occasionally lifting the eyelids. Obtain medical attention.

--- SKIN CONTACT:
Remove contaminated clothing. Wash affected skin areas thoroughly with soap and water. Wash contaminated clothing thoroughly before re-use.

--- INHALATION:
Remove to fresh air. Apply artificial respiration or administer oxygen, if necessary. Call a physician immediately.

--- INGESTION:
Keep person warm, quiet and get immediate medical attention. Do not induce vomiting, because aspiration of material into the lungs from vomiting can cause chemical pneumonitis which can be fatal.

SECTION VI. REACTIVITY DATA

STABILITY:
Stable under normal conditions. Avoid exposure to excessive heat.

INCOMPATIBILITY:
Avoid contact with strong mineral acids, peroxides and polymerization catalysts.

HAZARDOUS POLYMERIZATION:
Can Occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield carbon dioxide and/or monoxide.

CALIFORNIA SCAQMD RULE 443.1:
This product contains photochemically reactive volatile organic compound(s). Refer to Section II and III.

SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Evacuate all non-essential personnel. Remove all sources of ignition. Ventilate the area. Equip employees with appropriate protection equipment (See Section VIII). Dike around spilled material. Cover spill with inert absorbent material and shovel with non-sparking tools into container. Remove containers to a safe area and seal.

WASTE DISPOSAL METHOD:
Waste material must be disposed of in accordance with federal, state, and local environmental regulatory controls.

rulemaking revising its air contaminants regulations, OSHA concluded that the "current evidence on styrene's carcinogenicity does not support its classification in the final rule as a carcinogen." 54 Fed. Reg. 2430 (Jan. 19, 1989); see also 54 Fed. Reg. at 2364. In the same rulemaking, the National Institute for Occupational Safety and Health (NIOSH) commented that there "seems to be little basis from the experimental animal investigations or epidemiologic studies to conclude at this time that styrene is carcinogenic." Moreover, other scientists have independently concluded that styrene does not present a carcinogenic risk to humans. I. C. Munro, et al. "A Review of Styrene Pharmacokinetics and Carcinogenicity" (July 21, 1989)(CanTox Inc.)(U.S. EPA Safe Drinking Water Docket No. IID, Document III J2.86, Attachment C).

OTHER COMMENTS

We recommend that containers be either professionally reconditioned for reuse by certified firms or properly disposed of by certified firms to help reduce the possibility of an accident. Disposal of containers should be in accordance with applicable federal, state and local laws and regulations. "Empty" drums should not be given to individuals.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or completeness.

The conditions of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

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M A T E R I A L S A F E T Y D A T A S H E E T

COATINGS, RESINS, AND RELATED MATERIALS

MANUFACTURED BY:
Eastman Chemical Company
400 East Cottage Place
Carpentersville, IL. 60110

EMERGENCY CONTACT :CHEMTREC 1-800-424-9300
(OUTSIDE US/CANADA:CHEMTREC 703-527-3887)

INFORMATION CONTACT:1-888-CALL-MWT (DURING NORMAL BUSINESS HOURS)
DATE OF PREP: 3/01/01 SUPERSEDES DATE: 1/30/01 DATE OF PRINT: 5/04/01

SECTION I. PRODUCT IDENTIFICATION

PRODUCT CODE: (INTERNAL REF.#162)
186-0616
PRODUCT NAME :
UP RESIN 749TYPE WINDING RES
SHIPPING DESCRIPTION:
RESIN SOLUTION,
3, UN 1866, PG III
MARINE POLLUTANT, CONTAINS:
STYRENE

SECTION II. HAZARDOUS INGREDIENTS

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM
HEALTH: 2 * FLAMMABILITY: 3
REACTIVITY: 1

INGREDIENT / CAS NO.	WT. PERCENT	WORKPLACE EXPOSURE LIMITS ppm	mg/m3	SOURCE	VAPOR PRESSURE (mm Hg @68F)	LEL
STYRENE						
100-42-5	45.7					
		20.000	85.000	TWA/ACGIH TLV	4.30	1.10
		40.000	170.000	STEL/ACGIH TLV		
		100.000		TWA/OSHA PEL		
		600.000		STEL/OSHA PEL		
		200.000		CEILING/OSHA PEL		
		50.000	215.000	TWA/NIOSH REL		
		100.000	425.000	STEL/NIOSH REL		
		700.0		NIOSH IDLH		

SECTION III. PHYSICAL DATA

BOILING RANGE: 148-415 F
SPECIFIC GRAVITY 1.080
VAPOR DENSITY (AIR=1): 3.025
VOLATILE ORGANIC CONTENT (VOC): N/A
APPEARANCE AND ODOR: light straw-colored solution - styrene odor
SOLUBILITY IN WATER: negligible

PERCENT VOLATILE BY VOL: 54.64
EVAPORATION RATE (n-Bu Ac=1): 0.44
VAPOR PRESSURE (mm Hg@68F): 3.69

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 86 DEG. F SETAFLASH OSHA CLASSIFICATION: IC
FLAMMABLE LIMITS % BY VOLUME IN AIR AT 212 DEG. F:
LOWER EXPLOSION LIMIT: 2.00

occasionally lifting the eyelids. Obtain medical attention.

--- SKIN CONTACT:
Remove contaminated clothing. Wash affected skin areas thoroughly with soap and water. Wash contaminated clothing thoroughly before re-use.

--- INHALATION:
Remove to fresh air. Apply artificial respiration or administer oxygen, if necessary. Call a physician immediately.

--- INGESTION:
Keep person warm, quiet and get immediate medical attention. Do not induce vomiting, because aspiration of material into the lungs from vomiting can cause chemical pneumonitis which can be fatal.

SECTION VI. REACTIVITY DATA

STABILITY:
Stable under normal conditions. Avoid exposure to excessive heat.

INCOMPATIBILITY:
Avoid contact with strong mineral acids, peroxides and polymerization catalysts.

HAZARDOUS POLYMERIZATION:
Can Occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield carbon dioxide and/or monoxide.

CALIFORNIA SCAQMD RULE 443.1:
This product contains photochemically reactive volatile organic compound(s). Refer to Section II and III.

SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Evacuate all non-essential personnel. Remove all sources of ignition. Ventilate the area. Equip employees with appropriate protection equipment (See Section VIII). Dike around spilled material. Cover spill with inert absorbent material and shovel with non-sparking tools into container. Remove containers to a safe area and seal.

WASTE DISPOSAL METHOD:
Waste material must be disposed of in accordance with federal, state, and local environmental regulatory controls.

SECTION VIII. SPECIAL PROTECTION INFORMATION

support its classification in the final rule as a carcinogen." 54 Fed. Reg. 2430 (Jan. 19, 1989); see also 54 Fed. Reg. at 2364. In the same rulemaking, the National Institute for Occupational Safety and Health (NIOSH) commented that there "seems to be little basis from the experimental animal investigations or epidemiologic studies to conclude at this time that styrene is carcinogenic." Moreover, other scientists have independently concluded that styrene does not present a carcinogenic risk to humans. I. C. Munro, et al. "A Review of Styrene Pharmacokinetics and Carcinogenicity" (July 21, 1989)(CanTox Inc.)(U.S. EPA Safe Drinking Water Docket No. IID, Document III J2.86, Attachment C).

OTHER COMMENTS

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The conditions of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

SECTION V.	DISCLAIMER	186-0616(CONT.)

THE INFORMATION IN THIS MSDS AND ENVIRONMENTAL DATA SHEET WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, REGARDING ITS ACCURACY OR COMPLETENESS.

M A T E R I A L S A F E T Y D A T A S H E E T

COATINGS, RESINS, AND RELATED MATERIALS

MANUFACTURED BY:
Eastman Chemical Company
400 East Cottage Place
Carpentersville, IL. 60110

EMERGENCY CONTACT :CHEMTREC 1-800-424-9300
(OUTSIDE US/CANADA:CHEMTREC 703-527-3887)

INFORMATION CONTACT:1-888-CALL-MWT (DURING NORMAL BUSINESS HOURS)
DATE OF PREP: 3/01/01 SUPERSEDES DATE: 1/19/01 DATE OF PRINT: 5/04/01

SECTION I. PRODUCT IDENTIFICATION

PRODUCT CODE:
752-4425 (INTERNAL REF.#162)
PRODUCT NAME :
UNSATURATED POLYESTER RESIN
SHIPPING DESCRIPTION:
RESIN SOLUTION,
3, UN 1866, PG III
MARINE POLLUTANT, CONTAINS:
STYRENE
RIGHT-TO-KNOW INFORMATION: 60.0 WT% 752-4425 POLYMER BASE
TRADE SECRET REGISTRY # MWT00569 (NJ&PA)

SECTION II. HAZARDOUS INGREDIENTS

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM
HEALTH: 2 * FLAMMABILITY: 3
REACTIVITY: 1

INGREDIENT / CAS NO.	WT. PERCENT	WORKPLACE EXPOSURE LIMITS ppm	mg/m3	SOURCE	VAPOR PRESSURE (mm Hg @68F)	LEL
STYRENE						
100-42-5	37.1					
		20.000	85.000	TWA/ACGIH TLV	4.30	1.10
		40.000	170.000	STEL/ACGIH TLV		
		100.000		TWA/OSHA PEL		
		600.000		STEL/OSHA PEL		
		200.000		CEILING/OSHA PEL		
		50.000	215.000	TWA/NIOSH REL		
		100.000	425.000	STEL/NIOSH REL		
		700.0		NIOSH IDLH		
TRIETHYL PHOSPHATE						
78-40-0	2.7					
		N/E	N/E	N/E	1.00	1.70

SECTION III. PHYSICAL DATA

BOILING RANGE: 148-415 F
SPECIFIC GRAVITY 1.285
VAPOR DENSITY (AIR=1): 2.704
VOLATILE ORGANIC CONTENT (VOC): N/A
PERCENT VOLATILE BY VOL: 55.92
EVAPORATION RATE (n-Bu Ac=1): 0.57
VAPOR PRESSURE (mm Hg@68F): 2.95
APPEARANCE AND ODOR: light straw colored solution - styrene odor
SOLUBILITY IN WATER: negligible

SECTION V. HEALTH HAZARD DATA 752-4425(CONT.)

EMERGENCY AND FIRST AID PROCEDURES

--- EYES CONTACT:
Flush with clean, lukewarm water for at least 15 minutes, occasionally lifting the eyelids. Obtain medical attention.

--- SKIN CONTACT:
Remove contaminated clothing. Wash affected skin areas thoroughly with soap and water. Wash contaminated clothing thoroughly before re-use.

--- INHALATION:
Remove to fresh air. Apply artificial respiration or administer oxygen, if necessary. Call a physician immediately.

--- INGESTION:
Keep person warm, quiet and get immediate medical attention. Do not induce vomiting, because aspiration of material into the lungs from vomiting can cause chemical pneumonitis which can be fatal.

SECTION VI. REACTIVITY DATA

STABILITY:
Stable under normal conditions. Avoid exposure to excessive heat.

INCOMPATIBILITY:
Avoid contact with strong mineral acids, peroxides and polymerization catalysts.

HAZARDOUS POLYMERIZATION:
Can Occur.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition may yield carbon dioxide and/or monoxide.

CALIFORNIA SCAQMD RULE 443.1:
This product contains photochemically reactive volatile organic compound(s). Refer to Section II and III.

SECTION VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Evacuate all non-essential personnel. Remove all sources of ignition. Ventilate the area. Equip employees with appropriate protection equipment (See Section VIII). Dike around spilled material. Cover spill with inert absorbent material and shovel with non-sparking tools into container. Remove containers to a safe area and seal.

WASTE DISPOSAL METHOD:
Waste material must be disposed of in accordance with federal, state, and local environmental regulatory controls.

rulemaking revising its air contaminants regulations, OSHA concluded that the "current evidence on styrene's carcinogenicity does not support its classification in the final rule as a carcinogen." 54 Fed. Reg. 2430 (Jan. 19, 1989); see also 54 Fed. Reg. at 2364. In the same rulemaking, the National Institute for Occupational Safety and Health (NIOSH) commented that there "seems to be little basis from the experimental animal investigations or epidemiologic studies to conclude at this time that styrene is carcinogenic." Moreover, other scientists have independently concluded that styrene does not present a carcinogenic risk to humans. I. C. Munro, et al. "A Review of Styrene Pharmacokinetics and Carcinogenicity" (July 21, 1989)(CanTox Inc.)(U.S. EPA Safe Drinking Water Docket No. IID, Document III J2.86, Attachment C).

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SECTION V. DISCLAIMER 752-4425(CONT.)

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Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
POLYLITE (R) 33540-00

MSDS No: 1919
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 04/09/02

1. PRODUCT IDENTIFICATION

Trade Name:	POLYLITE (R) 33540-00
Chemical Family:	Unsaturated Polyester Resin in Styrene
Intended Use:	Shrinkage-controlled Applications

NFPA Hazard Classification

Health Hazard:	2
Fire Hazard:	3
Reactivity:	1
Special Hazard:	

HMIS Hazard Classification:

Health:	2*	Moderate Hazard/Chronic Effect
Flammability:	3	Serious Hazard
Reactivity:	1	Slight Hazard
Personal Protection:		

2. COMPOSITION / INFORMATION ON INGREDIENTS

CAS No.	Name	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL	AMOUNT
100425	Styrene	20 ppm	40 ppm	100 ppm	45.50 ±2 wt%
Proprietary	Polyester Resin	NE	NE	NE	47.00 ±2 wt%
108054	Vinyl acetate	10 ppm	15 ppm	NE	0.50 wt%
Proprietary	Epoxide Ester	NE	NE	NE	5.00 wt%
80626	Methyl 2-Methyl-2-Propenoate	50 ppm	100 ppm	100 ppm	2.00 wt%

Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits.

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: Amber Clear Liquid Pungent Odor FLAMMABLE liquid and vapor. Harmful if swallowed - can enter lungs and cause damage Contact causes skin irritation. May undergo polymerization.

Route(s) of Entry:
Inhalation, ingestion, skin and eye.

5. FIRE FIGHTING MEASURES

Flash Point:	89 degrees F (32 degrees C)	
Flash Point Method Used:	SetaFlash Closed Cup	
Flammable Limits in Air (Lower):	1.1 % in air	Styrene
Flammable Limits in Air (Upper):	7 % in air	Styrene
Autoignition:	914 degrees F (490 degrees C)	Styrene

General Hazards:
FLAMMABLE LIQUID: This material's flash point is less than 100 degrees F (38 degrees C).

Fire Fighting Extinguishing Media:
Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.

Fire Fighting Equipment:
Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

Fire Fighting Instructions:
Evacuate all persons from the fire area to an explosion-protected location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. Use water spray to disperse vapors if a spill or leak has not ignited. See Section 13 for disposal considerations.

Fire and Explosion Hazards:
FLAMMABLE LIQUID. Vapors can form an explosive mixture with air. Vapor can travel to a source of ignition (spark or flame) and flash back. This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container.

Hazardous Combustion Products:
Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases.

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6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:
FOR SMALL SPILLS: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Use non-sparking (non-metallic) tools to clean up spill. Remove all sources of ignition. NO SMOKING. FOR LARGE SPILLS: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). NO SMOKING. Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been completed. Stop spill at source. Prevent spilled material from contaminating soil or entering drains,

for styrene, Threshold Limit Values (TLV) of 20 ppm or 85 mg/m3 TWA and 40 ppm or 170 mg/m3 Short Term Exposure Limit (STEL), 15 minute exposure, with a skin notation which indicates absorption through the skin which could add to the employees exposure. The Occupational Safety and Health Administration (OSHA), has established for methyl methacrylate, a Permissible Exposure Limit (PEL) of 100 ppm, or 410 mg/m3 for an 8 hour Time Weighted Average (TWA). The American Conference of Governmental Industrial Hygenists (ACGIH) have established, for methyl methacrylate, a Threshold Limit Value (TLV) of 50 ppm or 205 mg/m3 Time Weighted Average (TWA) for an 8-hour workday and a 40-hour work week and a Short Term Exposure Limit (STEL) 100 ppm or 410 mg/m3 for a 15 minute TWA. The American Conference of Governmental Industrial Hygenists (ACGIH) has established a Threshold Limit Value (TLV) of 10 ppm or 35 mg/m3 for vinyl acetate based on an 8-hour Time Weighted Average (TWA). The ACGIH has also established a 15 ppm or 53 mg/m3 15-minute Short Term Exposure Limit (STEL) for vinyl acetate.

Engineering Controls:
Local ventilation may be required during certain operations to maintain concentrations below recommended exposure limits. Use explosion-proof ventilation equipment.

Eye Protection:
Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

Skin Protection:
Wear chemical resistant gloves such as polyvinyl alcohol or Viton (R) . If splashing is likely, wear impervious clothing and boots to prevent repeated or prolonged skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.

Respiratory Protection:
A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure air-supplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Amber, Clear
Odor:	Pungent
Odor Threshold:	0.2 ppm Styrene
Physical State:	Liquid
Solubility in Water:	Insoluble at 20 degrees C (68 degrees F)
Vapor Pressure:	6.12 (mm Hg) Styrene
Specific Gravity:	1.03 - 1.09 (Water = 1) at 25 degrees C

> 5.0 g / kg. Vinyl acetate monomer: oral LD50 (rat), 2.9 g / kg.

Subchronic:

Styrene: inhalation NOEL(rat) 200 ppm 6 hr / day 13 weeks, target organ effects: auditory response; inhalation LOEL (rat) 800 ppm 6 hr / day 3 - 13 weeks, target organ effects: auditory response. Styrene has been shown to cause probable hearing loss in rats exposed for at least six hours per day for three to thirteen weeks to 800 ppm of styrene in the air, as indicated by a rise in the auditory brainstem response threshold and loss of hair cells of the inner ear. No effects were observed in rats exposed to styrene at 200 ppm for 13 weeks. Based on animal studies and human experience, no significant risk of hearing loss is expected in occupationally exposed persons. Overexposure to styrene has been suggested as a cause of the following effects in laboratory animals and may aggravate pre-existing disorders of the following organs in humans; mild, reversible kidney effects, effects on hearing, respiratory tract damage, testis damage and liver damage. Vinyl acetate: inhlation NOEL (rat), 5, 000 ppm / 13 weeks.

Chronic/Carcinogenicity:

The International Agency for Research on Cancer (IARC) has classified styrene in Group 2B, possibly carcinogenic to humans. IARC concluded that evidence of carcinogenicity from human health studies, was inadequate and based the classification on animal and other relevant data. The animal data included an increased incidence of cancer observed in a few studies in which rats and mice were given styrene by inhalation or by ingestion for their lifetimes. IARC considered the combined results of these cancer studies to provide "limited evidence" of carcinogenicity. Other scientists consider the results of these studies inadequate to assess human carcinogenicity because these studies had either negative or statistically inconclusive results or had serious problems such as poor study design or very high mortality. Other relevant data included results from in-vivo and in-vitro genotoxicity studies. IARC also relied on data on styrene oxide including the results of two studies demonstrating stomach tumors in rats that were fed styrene oxide for their lifetime. Several epidemiology studies involving workers in the styrene, polystyrene or reinforced plastics industries have been conducted. Together, these studies show no increased cancer risk from occupational exposure to styrene. Preliminary results of a recent inhalation study indicated that mice exposed to styrene showed an increased incidence of lung tumors, however no dose response relationship was observed. The relevance of these findings is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic. The American Conference of Governmental Industrial Hygienists (ACGIH) has adopted the listing of Styrene as "A4-Not Classifiable as a Human Carcinogen." There is inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals. Vinyl acetate monomer is classified as a 2B (possibly carcinogenic to humans) agent by the International Agency for Research on Cancer (IARC).

Teratology:

Styrene did not cause birth defects in orally-dosed rats, mice, rabbits and hamsters exposed by inhalation. Styrene given by inhalation for six hours a day during organ development has been shown to be toxic to fetal

DOT / IATA / IMDG:	Non Bulk
Proper Shipping Name:	RESIN SOLUTION
Hazard Class:	3
ID Number:	UN1866
Packing Group:	III
Label:	
Placard:	
Marine Pollutant:	
ERG Number:	127
Hazard Labels:	

DOT / IMDG:	Bulk
Proper Shipping Name:	RESIN SOLUTION
Hazard Class:	3
ID Number:	UN1866
Packing Group:	III
Label:	
Placard:	
Marine Pollutant:	
ERG Number:	127
Hazard Labels:	

TDG:	Bulk and Non-Bulk
Proper Shipping Name:	RESIN SOLUTION
Technical Shipping Name (If n.o.s.):	STYRENE
Hazard Class:	3(9.2)
ID Number:	UN1866
Packing Group:	III
Placard:	
Marine Pollutant:	
ERG Number:	127

Additional Information:
US regulations require the reporting of spills when the amount exceeds the Reportable Quantity (RQ) for specific components of this material. See CERCLA in Section 15, Regulatory Information, for the Reportable Quantities of specific components.

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15. REGULATORY INFORMATION

Clean Air Act -Hazardous Air Pollutants (HAP):
Styrene (100-42-5) is listed as a Hazardous Air Pollutant (HAP) under Section 112 of the Clean Air Act. Methyl Methacrylate (80-62-6) is listed as a Hazardous Air Pollutant (HAP) under Section 112 of the Clean Air Act. Vinyl acetate (108-05-4) is listed under Section 112 as a Hazardous Air Pollutant (HAP).

Occupational Safety and Health Act (OSHA):
This material is classified as a hazardous chemical under the criteria of

the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 304 - CERCLA:
Styrene (CAS# 100-42-5): Reportable Quantity = 1,000 lb. Methyl Methacrylate (CAS# 80-62-6): Reportable Quantity = 1,000 lb. Vinyl acetate monomer (CAS# 108-05-4): Reportable Quantity = 5,000 lb.

SARA Title III: Section 311/312 - Hazard Communication Standard (HCS):
This material is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, FLAMMABILITY HAZARD, and REACTIVITY HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).

SARA Title III: Section 313 Toxic Chemical List (TCL):
Styrene (100-42-5) Methyl Methacrylate (80-62-6) Vinyl Acetate (108-05-4)

TSCA Section 8(b) - Inventory Status:
All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

TSCA Section 12(b) - Export Notification:
This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

Canadian Inventory Status:
All components of this material are listed on the Canadian Domestic Substances List (DSL).

Canadian WHMIS:
This material is classified by the Canadian Workplace Hazardous Material Information System as: B2 (flammable liquid) D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material) F (dangerously reactive material)

California Proposition 65:
W A R N I N G: This material contains a chemical known to the State of California to cause cancer. The California Safe Drinking Water and Toxic Enforcement Act of 1986 requires that clear and reasonable warning be given prior to exposing any person to this chemical: trace amounts of Acetaldehyde WARNING: This product contains a chemical(s) known to the State of California to cause cancer. Styrene Oxide

Additional State Information:
This material has been tested by ASTM D2566-86 and meets the definition of "shrinkage-controlled" resin per the Indiana Styrene Rule, IDEM, Title 326 IAC 20-25.

Additional Canadian Regulatory Information:
The following chemicals are listed on the WHMIS Ingredient Disclosure List: Styrene Monomer (CAS# 100-42-5) Methyl Methacrylate Monomer (CAS # 80-62-6) Vinyl Acetate Monomer (CAS # 108-05-4)

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16. OTHER INFORMATION

MSDS No:	1919
Reason Issued:	Revise Sections 1, 2 and 15.,
Prepared By:	Environment, Health & Safety Department
Approved Date:	04/08/02
Supersedes Date:	08/21/01

1 PRODUCT AND COMPANY IDENTIFICATION

Organic Peroxides
2000 Market Street

Philadelphia, Pa 19103

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(303) 623-5716 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	1-800-558-5575	Business Hours

Product Name	LUPEROX DDM-9
Product Synonym(s)	Lupersol DDM-9*
Chemical Family	Organic Peroxide - Ketone Peroxide
Chemical Formula	Phthalate free formulation
Chemical Name	Methyl Ethyl Ketone Peroxide Mixture in Plasticizers
EPA Reg Num	
Product Use	Polymerization Initiator

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	58	Y
Methyl ethyl ketone peroxide(s)	1338-23-4	32-34	Y
Hexylene glycol	107-41-5	6	Y
Methyl ethyl ketone	78-93-3	1-2	Y
Hydrogen peroxide	7722-84-1	0.7	N
Water	7732-18-5	< 0.7	N

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are either on the TSCA Inventory list or exempt as impurities.

3 HAZARDS IDENTIFICATION

Emergency Overview
Clear oily liquid; Ketone odor

DANGER!
ORGANIC PEROXIDE
CAUSES EYE BURNS. MAY CAUSE BLINDNESS.
HARMFUL IF SWALLOWED.
CAUSES SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.

Potential Health Effects

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Use inert, non-combustible absorbant material. Sweep or scoop up using non-sparking tools. Wet down and dispose of immediately. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE

Handling

Contact with incompatible materials or exposure to temperatures exceeding SADT (See Section (9) may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite. Keep away from heat sparks and flame. Avoid contamination. Use only with adequate ventilation. Use explosion proof equipment. Keep container closed. Do not reuse container as it may retain hazardous product residue. Wash thoroughly after handling. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or mist. Do not taste or swallow. Avoid prolonged or repeated contact with skin.

Storage

Store below 38 C/100 F to maintain stability and active oxygen content. Detached storage is preferred. Store out of direct sunlight in a cool well-ventilated place. Store away from combustibles and incompatible materials. Refer also to National Fire Protection Agency (NFPA) Code 432, Code for the Storage of Organic Peroxide Formulations.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Eye / Face Protection

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and

10 STABILITY AND REACTIVITY

Stability

This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this MSDS for specified conditions.

SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generated a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

Hazardous Polymerization

Does not occur.

Incompatibility

Contact with strong acids, alkalis, oxidizers, transition metal salts, promoters/accelerators & reducing agents may result in a violent decomposition reaction or product degradation. (see SECTION 16)

Hazardous Decomposition Products

Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and may autoignite.

11 TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

Methyl ethyl ketone peroxide(s)
Single exposure (acute) studies indicate that this material (40-60% in dimethyl phthalate) is moderately toxic to rats if swallowed (LD50 484 mg/kg), slightly toxic to rabbits if absorbed through skin (LD50 4,000 mg/kg), practically non-toxic to rats if inhaled (4-hr LC50 17-50 mg/l), corrosive to rabbit eyes, and moderately irritating to rabbit skin (4-hr exposure, 4.5/8.0).

Following an allergic skin reaction in a paint sprayer, patch testing produced an allergic skin reaction with this material as well as other components of the paint. However, subsequent patch testing did not produce allergic skin reactions in 34 healthy subjects. Swallowing of this material was reported to cause liver injury in one case report.

Repeated oral administration of this material was reported to result in decreased body weight, mild liver and kidney injury and death in rats. Following repeated application of this material in dimethyl phthalate to the skin of rats and mice, severe skin damage and animal deaths (only at the highest dose levels) were the primary effects. Spleen and bone marrow changes considered secondary to the severe skin damage were noted in animals at the high doses. Higher doses applied to rat and mouse skin for a shorter time produced similar effects. Long-term repeated skin application of this material in dimethyl phthalate was reported to enhance skin tumor production in mice irradiated with UVB. This material has produced genetic changes in standard tests using bacterial or animal cells. However, no genetic changes occurred in a standard test using animals.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

Data on this material and/or its components are summarized below.

Methyl ethyl ketone peroxide(s)
This material is slightly toxic to guppies (96-hr LC50 44.2 mg/l).

2,2,4-Trimethyl-1,3-Pentanediol Diisobutyrate
This material is no more than moderately toxic to fathead minnow, ramshorn snails, aquatic earthworms, sideswimmers, pill bugs and flatworms (96-hr LC50s >1.55 mg/l), and daphnids (96-hr EC50 >1.46 mg/l).

Hexylene Glycol
This material has been reported to be practically non-toxic to a variety of aquatic organisms by acute toxicity testing. Freshwater fish including rainbow trout, bluegill sunfish, fathead minnow, mosquito fish, goldfish and channel catfish had LC50 values in excess of 1,000 mg/l and generally were in the range of 8,000 to 10,000 mg/l. Aquatic invertebrates such as Daphnia and crayfish had EC50 values greater than 2,800 mg/l.

Methyl Ethyl Ketone
This material is practically non-toxic to goldfish, brine shrimp, Daphnia magna, fathead minnow, mosquito fish, bluegill sunfish and golden orfe (LC50s >1,000 mg/l).

This material inhibits fungal growth and is reported to be bacteriostatic to several microorganisms (Escherichia coli, Salmonella typhimurium, Staphylococcus aureus, Leuconostoc citrovorum and Streptococcus thermophilus) at levels of 10-100 mg/l. Growth inhibition has also been reported for freshwater algae at levels ranging from 120 mg/l (blue-green algae) to 4,300 mg/l (green algae).

Chemical Fate Information

Data on this material and/or its components are summarized below.

Methyl ethyl ketone peroxide(s)
This material was reported to be readily biodegradable in a closed bottle system. An EC50 of 16 mg/l was reported in an activated sludge respiration inhibition test.

2,2,4-Trimethyl-1,3-Pentanediol Diisobutyrate
In a 28-day modified Sturm Test, this material was found to undergo 32-59% degradation to CO2. The bioconcentration factor without metabolism was estimated to be 670 and with metabolism 1-40. The log Pow is estimated to be 4.1.

Hexylene Glycol
Chemical oxygen demand (COD) and biological oxygen demand (BOD) indicated that this material is readily biodegraded.

Methyl Ethyl Ketone
Extensive data suggests that this material is readily biodegradable. It is non-toxic to sludge microorganisms at concentrations up to 800 ug/l.

Massachusetts Right to Know

This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Hexylene glycol
Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Hexylene glycol
Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Hexylene glycol
Hydrogen peroxide
Methyl ethyl ketone
Methyl ethyl ketone peroxide(s)

16 OTHER INFORMATION

Revision Information

Revision Date	16 FEB 2001	Revision Number 4
Supercedes Revision Dated	16-FEB-2001	

Revision Summary

Name Change from Lupersol to LUPEROX.
Synonym added.

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark

Miscellaneous

ADDITIONAL INCOMPATIBILITY DATA:

Rust, copper, and brass are not compatible with MEK peroxide. 316 stainless steel, glasss, polyethylene, polytetrafluoroethylene and polypropylen are preferred materials for contact with MEK peroxide. Acetone may react with residual hydrogen peroxide to form insoluble shock-sensitie acetone peroxide crystals.